Building strategy through metaphors

BRIEFINGS

Dr. Robert E. Neilson is the CKO and a professor at the Information Resources Management College of the National Defense University in the U.S.

In thinking about KM, I often turn back to Kenneth Boulding's seminal work "General Systems Theory – The Skeleton of Science" published in 1956. It's helpful to anchor KM in general systems theory for both KM theoreticians and practitioners because it positions the major dimensions of KM – people, process, and technology – in a hierarchy of functions to help KM strategists focus their efforts in an increasingly uncertain global environment.

Practicality of theory

From a practice perspective, conceptual models provide practitioners with rules of thumb for how to apply concepts. Without a theory base, KM as a discipline runs the risk of turning into the next management fad du jour. Exploring theory bases adds substance and value and moves disciplines to a higher level of analytical thought and away from the management fad stage that has plagued KM practice.

KM is inherently multi-disciplinary. No one set of theories or principles provide insight and understanding. In the absence of a firm theoretical basis, scientists have long relied on metaphors as a first step to help understand the underpinnings of a discipline. Boulding did the same through his hierarchy of systems. Metaphors lift us beyond the sterile level of comparison into a realm of context and learning.

Metaphors

The sidebox on page 13 includes metaphors as descriptions of KM functions ranging from the concrete and tangible to the transcendental and intangible.

Boulding's original metaphors are accompanied by descriptions of the general characteristics in the left-hand column. The right-hand column includes descriptions of knowledge management "systems" examples that correspond to Boulding's metaphors.

The metaphors can be conceived along two dimensions – level of disagreement and level of uncertainty (See Figure 1, below left). The more concrete metaphors at the lower levels enjoy more agreement and certainty. Metaphors that are more complex and intangible suffer from less agreement and certainty. (Each level is depicted with a number along the line.) All can be united, however, along the major dimensions of KM as:

1. *Technology (lower-level 1-3)*
   Software and technology
2. *Process (mid-level 4-6)*
   Intersection of business processes and education and training
3. *People (high-level 7-9)*
   Intersection of strategy development, education and training

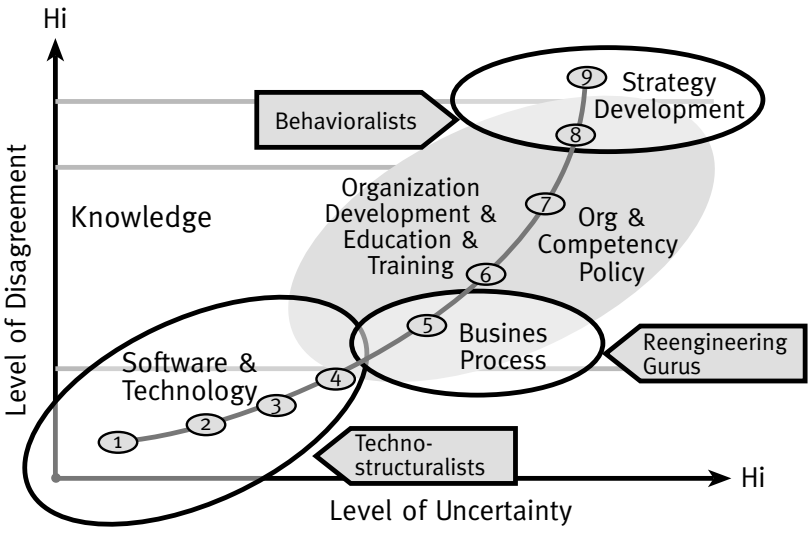
Since there's less certainty and agreement as one moves from the KM functions of software and technology to strategy development, the metaphors become more complex and less certain as you move through the levels. The framework reflects the oft-repeated finding in the KM literature that you should avoid purchasing and installing software and technology until you have determined the strategy for why you want to use KM principles to help address business problems.

Building consensus

Also, a requisite amount of time needs to be spent on seeking agreement on the kinds of training, policy and organizational capabilities needed to fulfill the strategy. Business processes may also have to change. Changing business process can imply "winners and losers" where there is less certainty and agreement over intended outcomes.

All of these KM functions need to be considered together in a coherent way. The framework, however, implies that there's a hierarchy of KM functions. KM practitioners and strategists should not move from Level 1 to 9. Rather, it's crucial to seek agreement from players, stakeholder and partners for strategy development, then work through the implications for education and training, business processes, and finally tackle the software and technology challenges.

Figure 1. Hierarchy of KM functions: implementation of approaches



Practical implications

Strategic leaders charged with introducing KM concepts into organizations may need to wear several hats as they proceed through the hierarchy of KM functions. At the strategy development stage (Levels 7-9), leaders may need to wear their 'behaviorist" hat addressing fundamental questions including:

- Why should employees share their intellectual capital?;
- What's in it for me?; and
- What rewards will motivate people to share their tacit and explicit knowledge across time, space and boundaries?

At the business process stage (Levels 4-6), leaders may need to reinvent themselves as reengineering gurus to change the way business is conducted to fulfill the strategy.

Finally, KM leaders need to wear their "techno-structuralist" hat (Levels 1-3) to lead the charge in introducing software applications that seem to spring to life like electronic mushrooms. New technologies may imply structural or organizational changes influenced by the overall KM strategy.

Using metaphors to communicate

When communicating with employees and senior leaders about the potential benefits of KM, it's helpful to use these metaphors. Depicting the KM journey with multi-dimensional steps can encourage patience and build a vision of how the organization wants to function in the future

This theoretical framework emphasizes that strategy must come before technology. Building strategy isn't easy – a certain amount of ambiguity will be necessary. Leading with technology might be satisfying in the short term, but won't work in the long-term. Take the time up front to build consensus and craft a strategy that will work for your organization. Once that's in place, the rest of the categories will fall into place more easily.

Viewing the dimensions of people, process and technology in tandem will help organizations approach KM in a holistic fashion that will ensure the proper infrastructure to sustain knowledge sharing activities and meet as-yet-unanticipated competitive threats.

Level	Metaphors	KM Examples
1	**Frameworks** Static structures	Intranet, portals, vortals, static Web pages used in-house
2	**Clockwork** Simple dynamic systems	Internet, extranet, e-mail, portals, vortals used with external audiences
3	**Cybernetics** Closed Loop Systems	Collaborative systems (such as Lotus Notes) used in-house
4	**Cell** Self-maintaining systems	Information processing in open systems, e.g. Lotus Notes with customers, dynamic CoPs
5	**Plant** Systems of differentiated and mutually dependent parts with "blueprinted" growth	Exchange of "best practices" intending to spur growth
6	**Animal** Systems displaying self-awareness, neurological control, based on the whole	Neural networks or specific systems of training for ingraining individuals with the patterns that define the individual. Also, the acquisition of knowledge for its own sake.
7	**Human** Systems that display self-consciousness, based on more complex images with abstract dimensions	People as individuals, each with their view of values, mission, competencies, etc. Also, the acquisition of knowledge by individuals to guide behavior leading to "single-user" intelligence systems
8	**Social** Systems built on collective shared identification wtih roles/symbols, displaying interpersonal accommodation	Mission-driven systems to promote knowledge sharing that expand the focus to the organization, rather than the individual. It includes the interaction of human, intellectual, social and structural capital.
9	**Transcendental** Systems of unknowns and unknowables	Systems of strategic and future planning. Systems guide the acquisition and sharing of knowledge to meet or respond to unknown challenges or threats.

Dr. Robert E. Neilson
E–mail: Neilson@ndu.edu